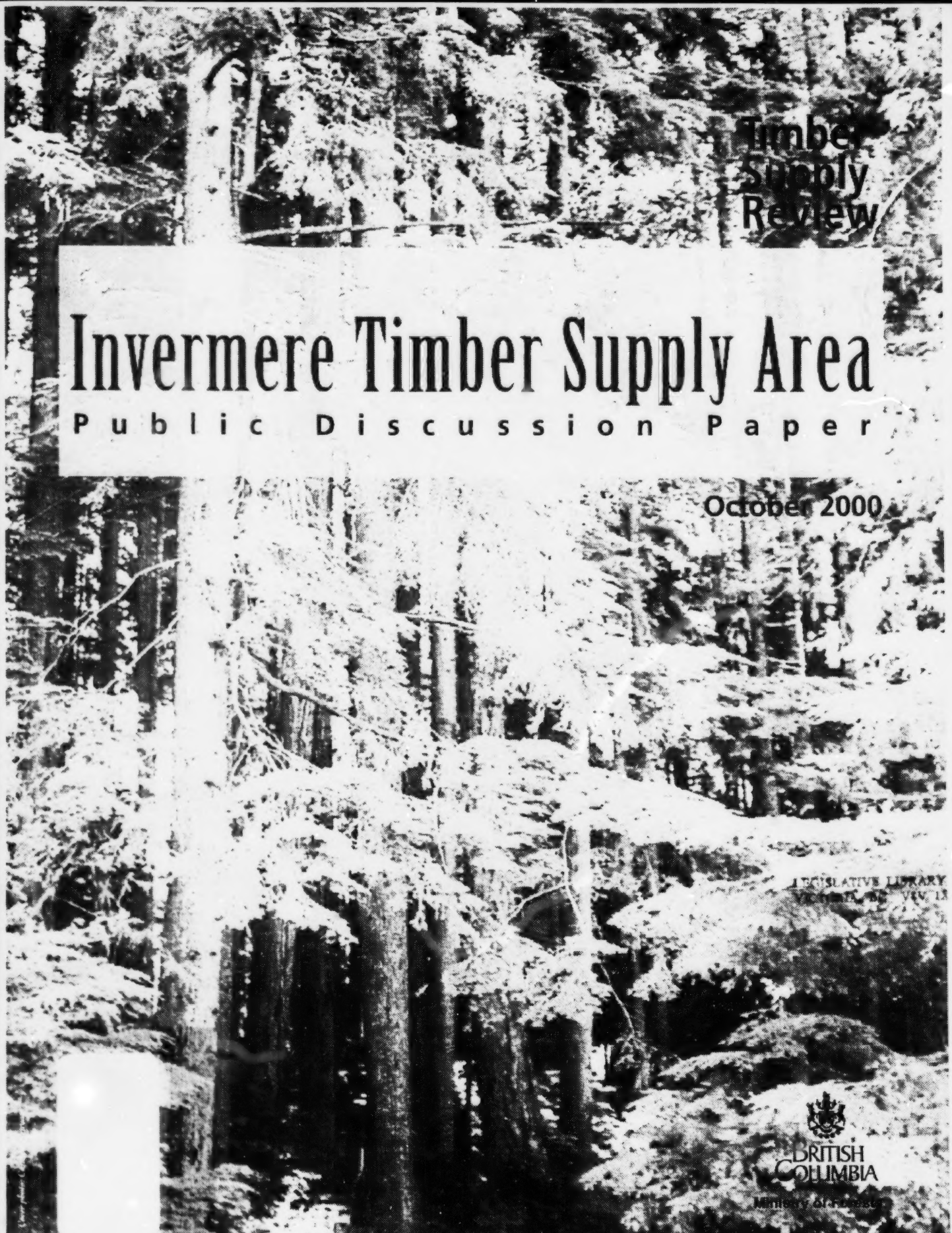

Invermere Timber Supply Area

Public Discussion Paper

October 2000

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Introduction

The British Columbia Forest Service is reviewing the timber supply for all timber supply areas (TSAs) and tree farm licences (TFLs) in the province. This review examines the impacts of current forest management practices on the timber supply, economy, environment and social conditions of the local area and the province. Based on this review, the chief forester may, if necessary, adjust the allowable annual cut (AAC) for the Invermere TSA.

By law, the chief forester must review and set new AACs for all TSAs and TFLs every five years. The objectives of the Timber Supply Review are:

- to identify relevant current forest management practices and assess their effects on short- and long-term timber supply, and identify related economic, environmental and social factors
- to identify where improved information is required for future timber supply forecasts
- to provide the chief forester with information to make any necessary adjustments to the AACs for the next five years

Timber Supply Review in the Invermere TSA

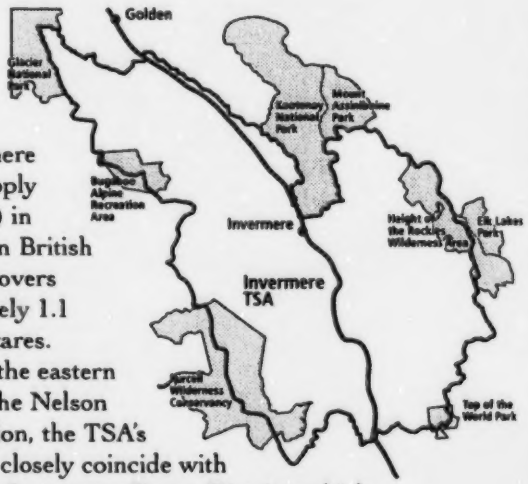
The *Invermere TSA Data Package* and *Information Report* were released in March 2000. Following the release, the documents were reviewed by licensees, the public and government agencies. The BC Forest Service has now completed the *2000 Invermere TSA Analysis Report* which is summarized in this discussion paper. The objectives of this document are to provide British Columbians with an overview of the Timber Supply Review process and harvest level forecasts for the Invermere TSA and to encourage them to provide comments during the 60-day public review period. Public comments will be accepted until Dec. 8, 2000.

Public Review
Public Review
A
Current status
Public release
Number of months
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Figure 1.
Review process for the Invermere TSA

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester's determination will be outlined in a rationale statement which, along with the summary of public input, will be available to the public upon release. Following the release of the AAC determination by the chief forester, the minister of forests will apportion the AAC to the various licences and programs.

Description of the TSA



The Invermere Timber Supply Area (TSA) in southeastern British Columbia covers approximately 1.1 million hectares. Located in the eastern portion of the Nelson Forest Region, the TSA's boundaries closely coincide with those of the Invermere Forest District, which also includes TFL 14. The TSA is administered from the forest district office in Invermere.

The Invermere TSA has experienced substantial population growth. According to the 1996 census, the population of the TSA is about 9,250, an increase of more than 26 per cent from 1991. About one-third of the TSA's population live in Invermere, while Windermere, Canal Flats and Edgewater are the other major population centres.

° A timber supply area is an integrated resource management unit established in accordance with of the Forest Act.

The natural resources

The forest land of the Invermere TSA provides a wide range of natural resources, including timber, forage, water, minerals, fisheries, wildlife, and scenic landscapes.

This TSA is approximately 165 kilometres long, and straddles two spectacular mountain ranges: the Purcell Mountains to the west and the Rocky Mountains to the east. In between lies the Rocky Mountain Trench, a broad, flat valley that contains rivers and wetlands. The interaction of climate and terrain produces a wide range of vegetation, from dry, open ponderosa pine and Douglas-fir forests at lower elevations, to Engelmann spruce and subalpine fir at higher elevations. Lodgepole pine forests are also very common as a result of fire history. Old-growth forests are more common in the mountainous areas of the TSA away from the Trench, and at higher elevations.

The Invermere TSA supports an abundance and variety of wildlife, including all ungulate species present in BC, among them Rocky Mountain bighorn sheep, white-tailed and mule deer, moose, mountain goats, elk and caribou. Other large mammals such as cougar, grizzly bear, wolf and black bear are also common. The area supports many species of birds (resident and migratory), and the wetlands along the rivers and lakes of the TSA are important for nesting and migration. Old-growth forests, riparian areas and ungulate winter ranges are key forest management issues influencing wildlife habitat.

A wide variety of fish species are found in the TSA, including sturgeon, which are an endangered species. Protection of fisheries values throughout the Invermere TSA is important. Currently, 25 wildlife species considered at risk or regionally significant occur in the Invermere TSA. In addition, a number of species have been identified as requiring special habitat management, among them the northern goshawk, bull trout, and grizzly bear.

Three national parks border the Invermere TSA and several provincial parks are located within the TSA. These parks, together with the forests, provide a host of recreation and tourism opportunities, including back-country touring, wildlife viewing, fishing, camping, cross-country and downhill skiing, heli-skiing, snowmobiling, hiking and climbing, horseback riding, hunting, mountain-biking, boating, and whitewater rafting.

Land-use planning and strategies

In 1995, the provincial government released the Kootenay-Boundary Land Use Plan which includes the Invermere TSA. The plan resulted in the creation of two new protected areas within the Invermere TSA: the Bugaboo Alpine Provincial Park and the Height of the Rockies Provincial Park.

An Enhanced Forest Management Pilot Project began in 1996 to develop enhanced forest management strategies at the forest level. Currently, the key activity is the implementation of components of the management strategies report and completion of outstanding research.

In 1997, the government approved the Kootenay-Boundary Land-Use Plan—Implementation Strategy (KBLUP-IS). In July, 2000 a Higher Level Plan (HLP) was drafted which incorporates some of the policies from the strategy. The plan will contribute to: maintaining biodiversity; conserving old-growth forests, wildlife corridors, scenic landscapes, domestic watersheds, and caribou and grizzly bear habitats; restoring fire-maintained ecosystems; enabling logging practices to better reflect natural disturbance patterns; and creating greater certainty for industry and the environment. A 60-day public review of the plan closed on Sept. 26. Once the plan has been approved by government, it will be legally established.

The chief forester will consider land-use planning and strategy information in the upcoming allowable annual cut determination.

Current allowable annual cut

In March 1996, the chief forester set the current allowable annual cut for the Invermere TSA at 591,500 cubic metres. This was a 10-per-cent reduction from the previous determination.

Socio-economic profile

Regional economy

Overall, the economy of the Invermere TSA is relatively diversified, relying primarily on tourism, forestry and the public sector. As Figure 2 shows, tourism is the largest employment sector, providing about 33 per cent of the labour force. Tourism has also demonstrated significant growth and investment in recent years. The forestry sector accounts for about 20 per cent of employment in the TSA.

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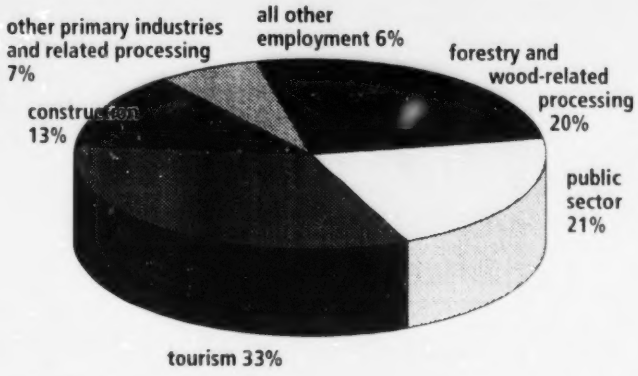


Figure 2. *Invermere TSA - Estimates of Employment by Sector, 1996*
Source: 1996 Census

Forestry supports numerous other jobs in the area through companies and employees purchasing goods and services from local businesses. Each 100 full-time direct forestry jobs in the Invermere TSA are estimated to support another 23 to 63 jobs, depending on the forestry activity (harvesting or timber processing). In comparison, 100 direct jobs in the tourism sector support an estimated seven to 14 additional jobs.

Table 1 illustrates the potential contribution of the forest industry associated with the current Invermere TSA timber harvest to both the regional and provincial economies. Figures in this table are net of taxes and are based on the current AAC of 591,500 cubic metres (including woodlot licences).

	TSA	Provincial
Direct employment (person-years)	357	703
Total employment (person-years)	485	1,477
Total employment income (millions per year)	20.5	56.8
Provincial government revenues (millions per year)	n.a.	19.3

Table 1. *Summary of local and provincial economic information associated with the current AAC.*

Timber supply forecasts

A timber supply computer model was used to project several possible timber supply forecasts for the next 250 years. One of these forecasts is the base case forecast which illustrates the effect of current forest management on timber supply. The base case is not an AAC recommendation, but rather it is one of many sources of information the chief forester will consider when setting the AAC.

The base case forecast is presented in this report for discussion and comparison; due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than the level forecast in the base case.

The base case timber supply forecast for the Invermere TSA indicates that a harvest level of 581,570 cubic metres per year—the current AAC adjusted to account for 9,930 cubic metres transferred to woodlot licences—could be maintained for one decade. The analysis projects that after one decade the timber supply will decline over the next three decades to the long-term harvest level of 426,880 cubic metres per year.

The timber supply analysis shows that the area projected to be harvested fluctuates around an average of about 2,100 hectares per year for the next 250 years.

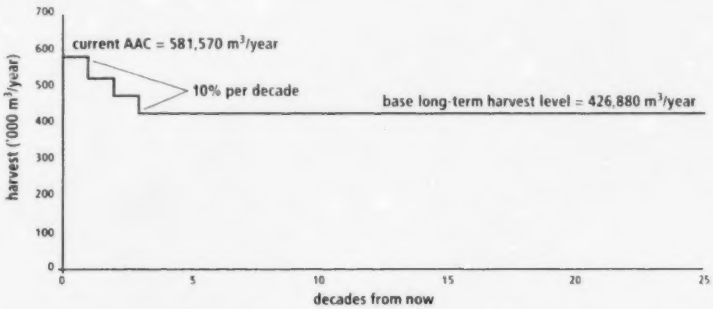
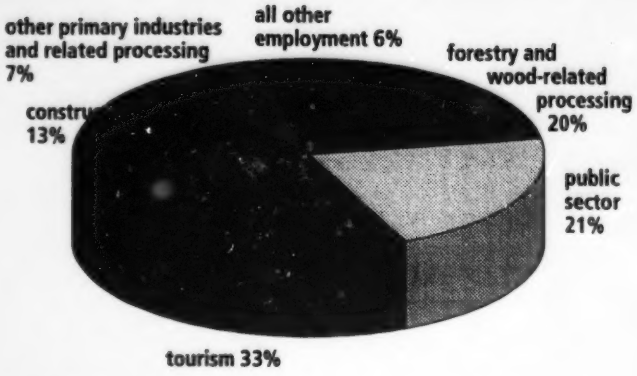


Figure 3. *Base case timber supply forecast for the Invermere TSA, 2000*

Compared to the 1996 timber supply review, several changes have occurred in the Invermere TSA that affect the base case timber supply forecast. Old-growth forest requirements have affected timber availability. However, this has been somewhat offset by a 3.4 per cent increase in the size of the timber harvesting land base due to an increase in availability of problem forest types now considered available for harvesting, and to improvements in the analysis methods used to reflect management requirements for biodiversity.

Sensitivity analyses: examining uncertainty

Because forests are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by


other primary industries and related processing 7%
all other employment 6%
forestry and wood-related processing 20%
public sector 21%
tourism 33%

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Source: 1996 Census

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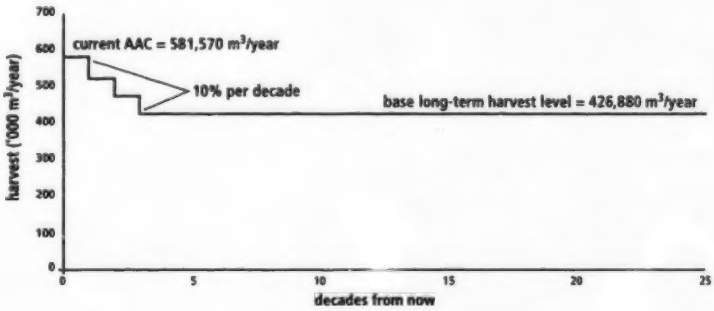

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Sensitivity analyses: examining uncertainty

Because forests are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by

uncertainties in the inventory information and management practices. These uncertainties are generally examined through what are called sensitivity analyses, which the chief forester will consider in determining an AAC. The sensitivity analyses are useful for assessing how any changes in information, or uncertainties and risks, might affect timber supply.

In the Invermere TSA a number of sensitivity analyses were conducted to examine the stability of the timber supply in light of uncertainties such as managing ungulate winter range, harvesting techniques, and the application of biodiversity requirements.

Two important sensitivity analyses are listed below. For a complete listing, please refer to the *2000 Invermere TSA Analysis Report.*

Uncertainty about the size of the timber harvesting land base

Determining the size of the timber harvesting land base — after reflecting environmental objectives — involves complex considerations and projections about the future. For the Invermere TSA, there is some uncertainty about the size of the timber harvesting land base due to factors such as fluctuations in timber prices, changes in harvesting and milling technology and land-use decisions.

As Figure 4 shows, if the timber harvesting land base has been overestimated by five per cent, then the initial harvest level would be lower by two percent and decline to medium- and long-term levels that are approximately five per cent lower than in the base case.

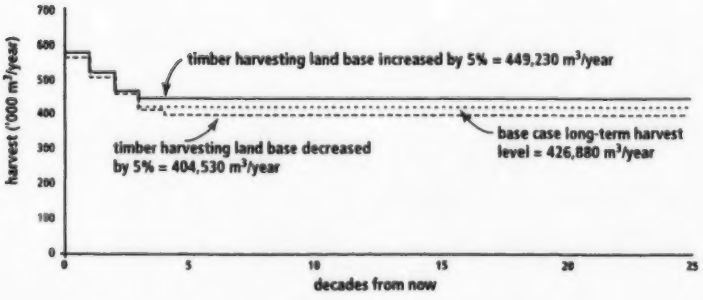

Fig. 4 *Uncertainty about the size of the timber harvesting land base — Invermere TSA, 2000*

If the timber harvesting land base has been underestimated by five per cent then the initial harvest level is forecast to continue for one decade before declining to medium- and long-term levels that are approximately five per cent higher than in the base case.

Uncertainty in ungulate winter range areas

Maintaining winter range for elk, white-tailed deer and mule deer is an important wildlife management objective throughout the East Kootenay. Forest cover in winter ranges provides shelter in the event of winter storms. An objective of the Nelson Forest Region is to maintain forests older than 121 years on 40 per cent of the winter range area.

Figure 5 shows that by decreasing the forest cover to 30 per cent, the initial harvest may continue for two decades before declining to the long-term harvest level. Increasing the cover by 10 per cent to 50 per cent results in a similar forecast as the base case but causes the harvest level to decline by 10 per cent for two decades before the harvest level can rise to the long-term harvest level.

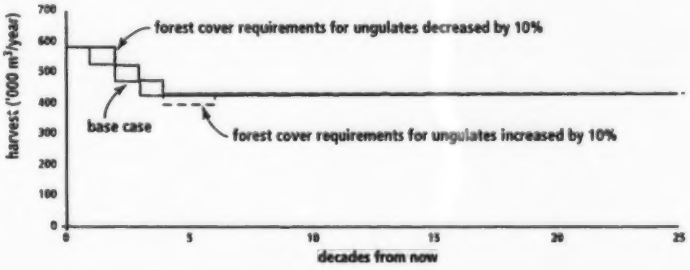

Fig. 5 *Harvest forecast showing the effects of changes to the percentage of forest cover for ungulates — Invermere TSA, 2000*

Implications of changes in the AAC

Environmental Implications

Current forest management follows the standards set out by the Forest Practices Code. These standards are designed to maintain a range of ecosystem attributes. In addition, th KBLUP-IS provides direction on a range of environmental considerations. In the Invermere TSA analysis area, about 53 per cent of the productive forest is not considered available for timber harvesting and will provide for many environmental values. Forested area both inside and outside of the timber harvesting land base will help to maintain critical forest habitats for many species. Forest cover requirements

for biodiversity, scenic values, ungulate winter range, and community watersheds were included in the analysis.

First Nations

Two First Nations bands with a total population of about 420 reside in the Invermere TSA. The Columbia Lake Band is located at Windermere and the Shuswap Band at Invermere. The Shuswap Band is culturally and linguistically aligned with the Shuswap Nation, and politically aligned with the Ktunaxa/Kinbasket Tribal Council.

The Ktunaxa/Kinbasket Tribal Council, on behalf of the Ktunaxa Nation and the Shuswap Band, has submitted a comprehensive land claim to the provincial government. The land claim covers the southeast portion of the province, including the Invermere TSA. The Ktunaxa Nation has submitted an Interim Measures Proposal encompassing the guide and outfitting tenure areas and the trap line areas registered to Columbia Lake Band members.

First Nations people work in the forest industry, though total employment is low. First Nations have expressed an interest in being involved in a full range of forestry activities, including resource management.

Community Implications

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. The base case harvest forecast for the Invermere TSA suggests that the current harvest level of 581,570 cubic metres per year (which excludes the 9,930 cubic metres transferred to woodlots) could be maintained for one decade, providing a relative degree of stability to the level of forestry activity. The harvest level is projected to decline 10 per cent per decade over the next three decades to 426,880 cubic metres per year. If the harvest declines, employment and economic activities associated with timber harvesting may be impacted.

Your input is needed

Establishing the AAC is an important decision that requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the 2000 Invermere TSA Analysis Report and other issues related to the timber supply in the Invermere TSA. Forest Service staff would be pleased to answer questions or discuss concerns that would help you prepare your response. Please send your comments to the forest district manager at the address below. Your comments will be accepted until Dec. 8, 2000.

You may identify yourself on the response if you wish. If you do, you are reminded that responses will be subject to the *Freedom of Information and Protection of Privacy Act* and may be made public. If the responses are made public, personal identifiers will be removed before the responses are released.

A summary of public comments will be attached to the AAC rationale and will be available from the district office when the chief forester's AAC determination is announced.

For more information contact and/or mail your comments to:
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Phone: (250) 342-4200
Fax: (250) 342-4247

Or electronically to: Al.Neal@gems8.gov.bc.ca
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Background Information Regarding TSR

The Chief Forester's Responsibility

Determining the allowable annual cuts (AACs) for public forest lands in British Columbia is the responsibility of the province's chief forester. In this lengthy and complex process, the chief forester considers technical reports, analyses and public input, as well as government's social and economic objectives.

This responsibility is granted by legislation in the *Forest Act,* Section 8. It states that the chief forester shall specifically consider the following factors:

1. The rate of timber production that may be sustained from the area, taking into account:
   - the composition of the forest and its expected rate of growth
   - the time that it will take the forest to become re-established
   - silviculture treatments, including reforestation
   - standards of timber utilization
   - constraints on the amount of timber that may be produced due to use of the forest for other purposes.
2. The short- and long-term implications to the province of alternative rates of timber harvesting from the area.
3. The nature, production capabilities and timber requirements of established and proposed processing facilities.
4. The economic and social objectives of the Crown for the area, region and province — as expressed by the minister of forests.
5. Abnormal insect or disease infestations, and major salvage programs planned for the timber on the area.

Some of these factors can be readily measured and analyzed — others cannot. Ultimately, the chief forester's determination is an independent professional judgment based on the best available information. By law, the chief forester is independent of the political process, and is not dictated to by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from all sources.

Why the current AAC may be higher than the long-term harvest level.

Some concern has been expressed that the AACs are higher than the long-term harvest level. There are two main factors that explain this difference:

- In the short term, harvesting takes place in older forests that have accumulated high timber volumes by growing for a long time. Future harvesting on the same sites will take place in second-growth forests at younger ages, often yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to gradually reduce AACs in a managed transition to the lower level over several decades. This allows communities that rely on the forest sector to avoid sudden economic disruptions and to plan for the future (provided the long-term harvest level is not jeopardized).